

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



21 APR 2005



(43) International Publication Date
6 May 2004 (06.05.2004)

PCT

(10) International Publication Number
WO 2004/037994 A3

(51) International Patent Classification⁷: **G06F 17/30**

(21) International Application Number:
PCT/US2003/033590

(22) International Filing Date: 22 October 2003 (22.10.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/420,216 22 October 2002 (22.10.2002) US

(71) Applicant (for all designated States except US): **UNIVERSITY OF UTAH RESEARCH FOUNDATION** [US/US];
615 Arapleen Drive, Suite 110, Salt Lake City, UT 84108 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SANCHEZ, Alejandro** [US/US]; 20 North 1900 East, Salt Lake City, UT 84132 (US). **ROBB, Sofia** [US/US]; 20 North 199 East, Salt Lake City, UT 84132 (US).

(74) Agents: **HUIZENGA, David, E.**, et al.; Needle & Rosenberg, P.C., Suite 1000, 999 Peachtree Street, Atlanta, GA 30309-3915 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) Date of publication of the international search report:
3 June 2004

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **MANAGING BIOLOGICAL DATABASES**

(57) Abstract: A method for creating a database for managing multiple types of biological information, includes the steps of: inputting the biological information into the database as a new record, comparing the information in the record to the information already present in the database to determine whether the information already exist in the database; and adding the information to the database if it is not redundant. Creating at least one module for a specific type of biological information that is associated with each unique identifier, obtaining a form of biological information associated with a module in the database. Associating the biological information with the correct module in the database, and associating the biological information with the correct unique identifier.

WO 2004/037994 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/33590

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/30

US CL : 707/6, 100, 101, 102, 104.1

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 707/6, 100, 101, 102, 104.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
Google, ACM

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2002/0102604 A1 (MILNE EDWARDS et al) 1 August 2002 (1.8.2002), whole document	44-84
Y	US 2002/0072865 A1 (HOGUE et al) 13 June 2002 (13.06.2002), whole document	1-84
Y	US 6,363,399 B1 (MASLYN et al) 26 March 2002 (26.03.2002), Whole document	1-84
Y	US 6,303,297 B1 (LINCOLN et al) 16 October 2001 (16.10.2001), Whole document	1-84
Y	ALTSCHUL et al., Gapped BLAST and PSI-BLAST: a new generation of protein database search programs, Nucleic Acids Research, 1997, Vol. 25. No. 17, pages 3389-3402.	1-84
Y	FRISHMAN et al, Combining diverse evidence for gene recognition in completely sequenced bacterial genomes, Nucleic Acids Research, 1998, Vol. 26, No. 12, pages 2941-2947	1-84
A	WILLIAMS et al., Indexing and Retrieval for Genomic Database, IEEE Transactions on Knowledge and Data Engineering, Volume 14, Issue 1 (January 2002), Pages: 63 - 78	1-84

☐ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search

02 April 2004 (02.04.2004)

Date of mailing of the international search report

20 APR 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

John E Breene

Telephone No. (703)746-7240